

### **REMARKS**

In the Action, claims 17-21, 23, 24 and 26-31 are rejected. In response, claims 17, 20, 23, 24 and 27-31 are amended, and new claims 32-41 are added. Thus, the pending claims in this application are claims 17-21, 23, 24 and 26-41, with claims 17, 20 and 24 being independent.

Independent claim 17 is amended to recite the entry connection having a longitudinal axis that extends at an inclined angle with respect to a longitudinal axis of the separating chamber, a discharge tube connected to the outlet of the separating chamber where the vacuum is created in the discharge tube and where a positive pressure is formed in the second end of the discharge tube to discharge the material through the discharge outlet. Claim 1 is also amended to recite the angle of the entire tube causing the material to strike the wall of the separating chamber at a location opposite the entry connection. Independent claims 20 and 24 are also amended to recite the entry connection having a longitudinal axis extending at an inclined angle with respect to the longitudinal axis of the separating chamber, the material striking the wall of the separating chamber in a location opposite the entry connection, and the separated material falling downward through the separating chamber. These amendments are supported by the specification and drawings as originally filed.

New claims 32-41 are added to depend from the independent claims and recite additional features of the invention that are not disclosed or suggested in the art of record. For example, claim 32 depends from claim 17 and recites the feed conduit for supplying the particulate material to the separating chamber and having a rectilinear portion coaxially connected to the entry connection and extending at the inclined angle so that the material is supplied to the separating chamber in a linear path at an inclined angle with respect to the longitudinal axis of the separating chamber. Claim 33 recites a discharge tube having an injector tube extending through a side wall and introducing pressurized air through the injector tube in a direction

toward the discharge outlet to produce the positive pressure in the area downstream of the injector tube and to produce the vacuum in an area upstream of the discharge tube and separating chamber. Support for these features are found in paragraph 29 and Figure 1. Claims 34-41 are similar to claims 32 and 33, and thus, are supported by the specification as originally filed.

In view of these amendments and the following comments, reconsideration and allowance are requested.

**Rejection Under 35 U.S.C. § 102(e)**

Claims 17-19, 26 and 27 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,726,021 to Kennedy et al. Kennedy et al. is cited for disclosing a method of separating mixed particles using a vacuum to draw particulate material into a separating chamber.

Independent claim 17 as amended is not anticipated by Kennedy et al. since Kennedy et al. does not disclose a discharge tube connected to a separating apparatus and producing a positive pressure at an outlet end of the discharge tube and discharging the lower specific gravity material through the discharge outlet. Kennedy et al. discloses a vacuum pump 25 in the collection receptacle 21. The vacuum pump draws air through the connection tube 33 and separator 13. Kennedy et al. fails to disclose or suggest a method of producing a vacuum in the separating chamber and a positive pressure in the outlet end of the discharge tube to discharge the material.

The Action further contends that Kennedy et al. discloses the claimed entry connection for directing the particulate material at an angle. Applicant disagrees with this position since Kennedy et al. does not disclose or suggest this feature. The intake tube 11 of Kennedy et al. extends perpendicular to the longitudinal axis of the separating chamber 13 and includes a 90° elbow within the separating chamber so that the material is directed in a path coaxially with the

longitudinal axis of the separator. As amended, claim 17 specifically recites the entry connection having a longitudinal axis extending at an inclined angle with respect to the longitudinal axis of the separating chamber. Claim 17 further recites the angle of the entry connection being sufficient to cause the particulate material to strike the wall of the separating chamber at a location opposite the entry connection. Kennedy et al. does not disclose or suggest these features.

Furthermore, Kennedy et al. does not disclose feeding the particulate material into the chamber at an angle to strike the side wall of the separator. The separator of Kennedy et al. is specifically disclosed as a cyclone separator. A cyclone separator is designed to create a vortex within the separating chamber so that the air currents direct the material in an outward direction and move through the separator in a spiral path. The spiral path of the material is clearly indicated by the directional arrows in Figure 1 and by the baffles 15 at the top end of the cyclone separator. Accordingly, the curved output end of the feed tube of Kennedy et al. does not produce an angle of entry of  $45^{\circ}$  as suggested in the Action. The outlet angle of Kennedy et al. is specifically disclosed as being  $90^{\circ}$  with respect to the major axis of the inlet 11 and parallel to the longitudinal axis of the cyclone separator.

In view of the above comments and these amendments, claim 17 is not anticipated by Kennedy et al. Claims 18, 19, 26 and 27 are also not anticipated by Kennedy et al. Kennedy et al. clearly fails to disclose or suggest an angle of entry of the connection and the separation chamber being between  $40$  and  $50^{\circ}$  as in claim 26, or  $45^{\circ}$  as in claim 27. The position in the Action that the  $90^{\circ}$  elbow on the connection tube 11 is  $45^{\circ}$  is inconsistent with the drawings and is clearly not disclosed by the specification of Kennedy et al. Accordingly, the claims are submitted to be allowable over the art of record.

### **Rejection Under 35 U.S.C. § 103**

Claims 20, 21, 23, 24 and 28-31 are rejected under 35 U.S.C. § 103(a) as being obvious over Kennedy et al. in view of U.S. Patent No. 3,843,060 to Colburn. Colburn is cited for disclosing a second separating apparatus connected to a discharge end of a first separating apparatus. The rejection is based on the position that it would have been obvious to include a second separating apparatus to the separating apparatus of Kennedy et al.

For the reasons discussed above, independent claims 20 and 24 are allowable over Kennedy et al. The combination of Kennedy et al. and Colburn do not disclose or suggest the entry connection having a longitudinal axis at an inclined angle with respect to a longitudinal axis of the separating chamber so that the material is supplied to the separating chamber at an angle to contact the side wall of the separating chamber at a location opposite the entry connection. Furthermore, Kennedy et al. is specifically directed to a separator for removing debris from stoppers utilized to seal bottles of pharmaceutical compositions. Thus, Kennedy et al. is specifically directed to removing dust and other small particles from comparatively large and heavy objects. Kennedy et al. provides no motivation or incentive to one of ordinary skill in the art to use a second separating device for cleaning the dust removed from the stoppers. Colburn further fails to provide any motivation, teaching or suggestion to modify the device of Kennedy et al.

In view of these amendments and the above comments, claims 20, 21, 23, 24 and 28-31 are not obvious over the combination of Kennedy et al. and Colburn. The art of record further fails to disclose or suggest the features of new claims 32-41. Accordingly, these claims are allowable over the art of record.

In view of these amendments and the above comments, reconsideration and allowance are requested.

Respectfully submitted,



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